

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application.

Listing of Claims

Claim 1 (previously presented) A method for removing chemical pollutants comprising the steps of:

- a. preparing a carbonaceous mixture of a graphite-containing feedstock;
- b. placing the carbonaceous mixture in a contaminated medium containing chemical pollutants; and,
- c. collecting the carbonaceous mixture saturated with chemical pollutants, wherein the carbonaceous mixture comprises expanded graphite and carbonaceous nanocrystals.

Claim 2 (previously presented) The method of claim 1, wherein the step of placing the carbonaceous mixture in the contaminated medium is carried out by dispersing the carbonaceous mixture onto a surface.

Claim 3 (previously presented) The method of claim 1, wherein the step of placing the carbonaceous mixture in the contaminated medium is carried out by dispersing the carbonaceous mixture into a liquid.

Claim 4 (previously presented) The method of claim 1, wherein the step of placing the carbonaceous mixture in the contaminated medium is carried out by passing a liquid or a gas through a filter.

Claim 5 (previously presented) The method of claim 4, wherein the filter comprises a mixture of expanded graphite and carbonaceous nanocrystals, wherein the content of the carbonaceous nanocrystals in the mixture is not less than 10%.

Claim 6 (previously presented) The method of claim 5, wherein the carbonaceous nanocrystals are nanotubes having a size of 1-10 nm, with added thereto free C, C₂, C₃, C₄, C₅ radicals.

Claim 7 (previously presented) The method of claim 6, wherein the radicals are in the form of one or several connected hexagonals.

Claim 8 (previously presented) The method of claim 7, wherein the radicals are in the form of one or several connected hexagonals with added thereto radicals of the type C, C₂, C₃, C₄, and C₅.

Claim 9 (previously presented) The method of claim 1, wherein preparing the carbonaceous mixture is carried out by chemical processing of the graphite-containing feedstock with at least one halogen-oxygen compound having the formula MXO_n, wherein:

- a. M is selected from the group of chemical substances consisting of H, NH₄, Na and K;
- b. X is selected from the group of chemical substances consisting of Cl, Br, and I; and,
- c. n is 1,2,3,or 4.

Claim 10 (previously presented) The method of claim 9, further comprising a subsequent external action which results in exothermal explosive-like decomposition of the processed graphite-containing stock with subsequent initiation of an autocatalytic breakdown process.

Claim 11 (previously presented) The method of claim 10, wherein the subsequent external action is carried out at normal pressure and room temperature.

Claim 12 (previously presented) The method of claim 10, wherein the subsequent external action is carried out by a process selected from the group consisting of photochemical, electrochemical, mechanical, thermochemical, sonochemical and direct chemical processes.

Claim 13 (previously presented) The method of claim 9, wherein the weight ratio of the graphite-containing feedstock to the halogen-oxygen compound is about 2:1.

Claim 14 (previously presented) The method of claim 1, wherein the graphite-containing feedstock is natural flaked graphite or graphite in the form of powder.

Claim 15 (previously presented) The method of claim 1, further comprising a step of removing chemical pollutants from the carbonaceous mixture saturated with chemical pollutants.

Claim 16 (previously presented) The method of claim 15, wherein the chemical pollutants are hydrocarbon pollutants.

Claim 17 (previously presented) The method of claim 15, wherein the step of removing chemical pollutants from the carbonaceous mixture is performed by a compression method.

Claim 18 (previously presented) The method of claim 17, wherein the compression method is accomplished by squeezing with a press.

Claim 19 (previously presented) The method of claim 15, further comprising reusing the carbonaceous mixture of expanded graphite and carbonaceous nanocrystals following

Claim 20 (currently amended) The method of claim 1, wherein the collecting step comprises removing the chemical pollutants [is characterized by collecting] , wherein the chemical pollutants comprise oil and petroleum products, from the surface of water.

Claim 21 (previously presented) The method of claim 20, wherein the placing of the carbonaceous mixture of expanded graphite and carbonaceous nanocrystals on the surface of water is carried out by dispersal into the body of the water.

Claim 22 (previously presented) The method of claim 21, further comprising placing a floating barrier on the surface of the water.

Claim 23 (currently amended) The method of claim 1, wherein the method [is used for] further comprises filtering drinking water comprising chemical pollutants using a filter made of a carbonaceous mixture of expanded graphite and carbonaceous nanocrystals.

Claim 24 (previously presented) The method of claim 23, wherein the chemical pollutants include hydrocarbon compounds.

Claim 25-26 (cancelled)

Claim 27 (currently amended) The method of claim 1, wherein the method [is used for] further comprises the removal of light fractions of petroleum products or gaseous condensate from free spaces of storage reservoirs.

Claim 28 (currently amended) The method of claim 1, wherein the method [is used for] further comprises neutralization of exhaust gases of internal combustion engines as the base of a matrix of a neutralizer of exhaust gases.

Claim 29 (currently amended) The method of claim 1, wherein the method [is used as a filter for cigarettes for] further comprises filtration of cigarette smoke.

Claim 30 (currently amended) The method of claim 1, wherein the method [is used for] further comprises purification of blood plasmas.

Claim 31 (currently amended) The method of claim 1, wherein the method [is used as] further comprises [a sorbent for] external application of a sorbent in cases of skin integument diseases which are characterized by discharge.

Claim 32 (currently amended) The method of claim 31, wherein placement on the skin integument [is accomplished by] further comprises the application of a bandage with a carbonaceous mixture.

Claim 33 (currently amended) The method of claim 31, wherein the method [is used for] further comprises treatment of burns and purulent wounds.

Claim 34 (previously presented) The method of claim 1, wherein the contaminated medium is an industrial discharge.